

Reactor Facility History

NASA operated a nuclear test Reactor Facility at Plum Brook Station from 1962 until 1973. Located on a 27-acre parcel of land in the northern portion of NASA Plum Brook Station, the facility consists of a 60-megawatt test reactor and a 100-kilowatt "mock-up" reactor, support buildings and a laboratory. NASA used the Reactor Facility to study the effects of radiation on materials used in space flight.

When the Reactor Facility was closed in 1973, its fuel was safely removed off-site, to a U.S. Department of Energy facility in Idaho for disposal or reuse. At that time, NASA placed the facility in a safe, dry storage mode under what is referred to as a "Possess But Do Not Operate" license with the U.S. Nuclear Regulatory Commission (NRC) and continued to conduct environmental monitoring around the Reactor Facility as it had when the facility was operational. In 1998, the NRC asked NASA to proceed with decommissioning the Reactor Facility. NASA evaluated several alternatives and selected the safest and most thorough alternative for decommissioning the Reactor Facility. NASA submitted its Decommissioning Plan to the NRC in December 1999, and the NRC approved the Decommissioning Plan on March 20, 2002.

Decommissioning the Reactor Facility involves several steps:

Removal and disposal of all radioactive components, equipment and materials. All the low-level radioactive waste will be safely packaged and shipped by truck or rail for processing and/or disposal at a licensed facility.

The second step involves thorough decontamination and removal of all Reactor Facility buildings and structures to three feet below grade, and then backfilling the areas with clean fill.

NASA began decommissioning work immediately after the NRC approval of the Decommissioning Plan. Decommissioning is expected to be completed by the end of 2007. At the end of decommissioning, the area will meet the NRC's strict cleanup level for unrestricted use. Unrestricted use essentially means that someone could safely live on the site, eat all crops grown on the site and drink groundwater from the site. Only after there has been a final site survey to confirm that NASA has met the cleanup level will the NRC terminate NASA's license.

While awaiting approval of the Decommissioning Plan, NASA took several steps to prepare for decommissioning - work that could be performed under the terms of its then-existing license with the NRC. This work, referred to as pre-decommissioning, began in June 2001. A brief outline of the work conducted during pre-decommissioning follows.